DURESCO

Your partnership in technology

PRODUCT RANGE

DURESCO®

EPOX MOULDING COMPOUNDS

www.duresco.ch
e-mail: info@duresco.ch

DURESCO®
Epoxy Moulding Compounds

Main characteristics:

- Can be processed by common moulding techniques, some process informations are shown under literature on our homepage www.duresco.ch;
- Give mouldings with good mechanical properties, some types show outstanding cracking resistance;
- Have excellent dimensional stability, particularly at elevated temperatures;
- Have, depending on type, excellent electrical and dielectric properties even at elevated temperatures and under changing climatic conditions;
- Allow partly or even full impregnation of windings which leads to increased heat dissipation
- Have excellent resistance to chemicals, especially organic solvents and aggressive media even at elevated temperatures;
- All material are UL listed, also available in flame-retardant grades UL 94 V-0;
- Flame retardants used are free of halogens;
- All materials are free of heavy metals and fulfill ROHS requirements;
- Remain processable for several months if stored cool and dry;
- Are available in different flow grades for some of the products;
- Are coloured black;

Please contact our sales- and technical department for any support.

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Products			**NU 460**	**NU 463**
	Standard	*Unit*		
General				
Density	DIN 53479	g/cm³	2.0	1.9
Water absorption (100℃/30min)	ISO 62/99	%	0.08	0.08
Mould shrinkage *	C-Norm	%	0.4-0.8	0.4-0.9
Post shrinkage * (2h/170℃)	C-Norm	%	0.01	0.01
Mechanical				
Tensile strenght	ISO 527T2/93	MPa	90	110
Flexural strenght	ISO 178/01	MPa	130	180
Surface strain (flexural test)	ISO 178/01	%	1.20	1.50
E-modulus (flexural test)	ISO 178/01	Gpa	17	15
Impact strenght	ISO 179-1 FU/00	kJ/m²	13	16
Notched impact strenght	ISO 179-1 EA/00	kJ/m²	3	3
Thermal				
Glass transition temperature (forced oscillation)	ISO 6721/96	℃	110	115
Temperature-time limit RTI (flexural test) 2,000h	IEC 216	℃	175	180
Temperature-time limit RTI (flexural test) 20,000h	IEC 216	℃	170	170
Coefficient of thermal expansion (20-100℃)	ISO 11359/99	$℃^{-1} \cdot 10^{-6}$	23	26
Thermal conductivity (25℃)	DIN 52612	W/m.K	0.70	0.70
Flammability (d=3.2 mm)	UL 94	Class	HB	HB
Electrical				
Volume resistivity	IEC 60093	Ω. Cm	10^{15}	10^{15}
Surface resistivity	IEC 60093	Ω	10^{14}	10^{14}
Dielectric loss factor tg δ /50 Hz	IEC 60250 (1969)		0.015	0.01
Dielectric constant ε_R/50 Hz	IEC 60250 (1969)		5.10	5.20
Electric strenght (3 mm-plate)	IEC 60243-1 (98)	kV/mm	21	23
Comparative Tracking Index	IEC 60112/03	CTI-M	250	225
Comparative Tracking Index	IEC 60112/03	CTI	275	250
UL Listing	File E 66640		X	X
Glass fibre reinforced			X	X
Processing				
Injection moulding			yes	yes

* Mould temperature: 190° C (Injection moulding), 170°C (Compression and Transfer moulding)

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Products			**NU 4414**	**NU 510-1**	**NU 514**
	Standard	*Unit*			
General					
Density	DIN 53479	g/cm³	2.0	2.0	1.9
Water absorption (100℃/30min)	ISO 62/99	%	0.04	0.05	0.06
Mould shrinkage *	C-Norm	%	0.3-0.5	0.2-0.7	0.4-0.6
Post shrinkage * (2h/170℃)	C-Norm	%	0.01	0.01	0.01
Mechanical					
Tensile strenght	ISO 527T2/93	MPa	80	90	80
Flexural strenght	ISO 178/01	MPa	120	160	150
Surface strain (flexural test)	ISO 178/01	%	1.50	1.20	1.20
E-modulus (flexural test)	ISO 178/01	Gpa	13	18	14
Impact strenght	ISO 179-1 FU/00	kJ/m²	12	11	13
Notched impact strenght	ISO 179-1 EA/00	kJ/m²	4.0	4.0	4.0
Thermal					
Glass transition temperature (forced oscillation)	ISO 6721/96	℃	205	155	150
Temperature-time limit RTI (flexural test) 2,000h	IEC 216	℃	220	200	200
Temperature-time limit RTI (flexural test) 20,000h	IEC 216	℃	180	180	180
Coefficient of thermal expansion (20-100℃)	ISO 11359/99	$℃^{-1}\cdot10^{-6}$	26	20	25
Thermal conductivity (25℃)	DIN 52612	W/m.K	0.70	0.70	0.70
Flammability (d=3.2 mm)	UL 94	Class	HB	HB	V-0 (1.5mm)
Electrical					
Volume resistivity	IEC 60093	Ω. Cm	10^{15}	10^{15}	10^{14}
Surface resistivity	IEC 60093	Ω	10^{14}	10^{14}	10^{14}
Dielectric loss factor tg δ /50 Hz	IEC 60250 (1969)		0.01	0.01	0.02
Dielectric constant ε_R/50 Hz	IEC 60250 (1969)		6	5.60	5.80
Electric strenght (3 mm-plate)	IEC 60243-1 (98)	kV/mm	20	20	20
Comparative Tracking Index	IEC 60112/03	CTI-M	225	250	600
Comparative Tracking Index	IEC 60112/03	CTI	300	275	600
UL Listing	File E 66640		X	X	X
Glass fibre reinforced			X	X	X
Processing					
Injection moulding			no	no	yes

* Mould temperature: 190° C (Injection moulding), 170°C (Compression and Transfer moulding)

DURESCO®
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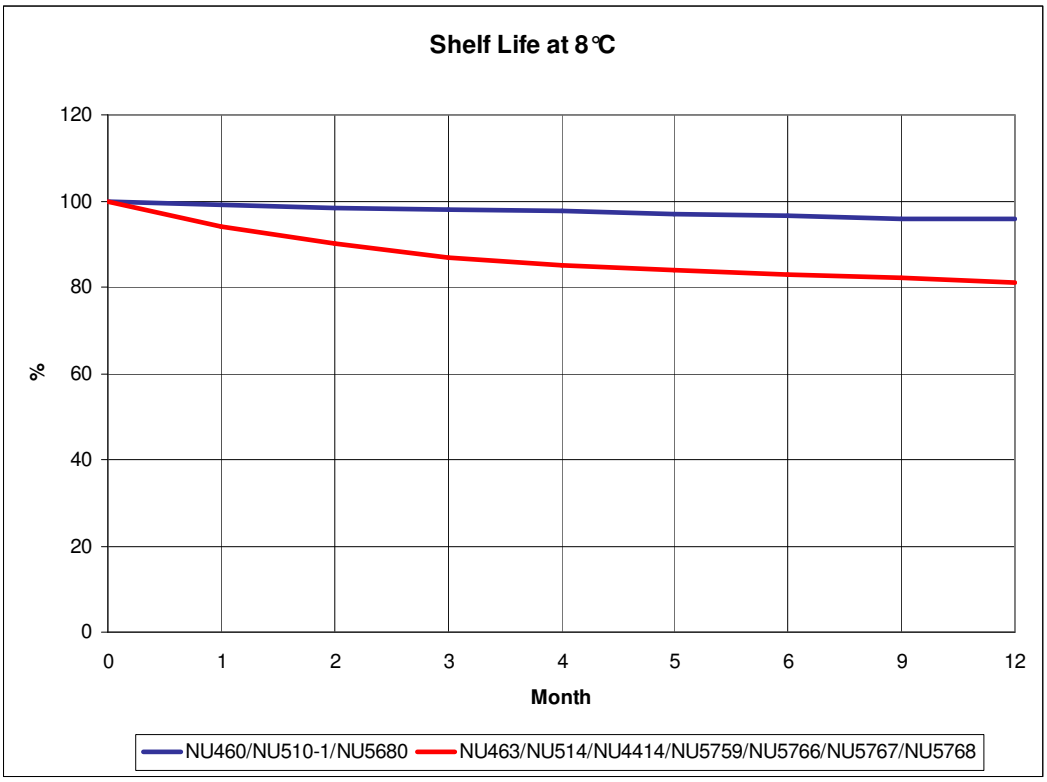
Products			**NU 5680**	**NU 5682**	**NU 5759**
	Standard	*Unit*			
General					
Density	DIN 53479	g/cm³	2.0	1.9	2.0
Water absorption (100℃/30min)	ISO 62/99	%	0.10		0.09
Mould shrinkage *	C-Norm	%	0.2-0.7		0.6-0.9
Post shrinkage * (2h/170℃)	C-Norm	%	0.01		0.01
Mechanical					
Tensile strenght	ISO 527T2/93	MPa	65		50
Flexural strenght	ISO 178/01	MPa	130	120	100
Surface strain (flexural test)	ISO 178/01	%	1.10	1.40	1.10
E-modulus (flexural test)	ISO 178/01	Gpa	17.0	11.2	14.0
Impact strenght	ISO 179-1 FU/00	kJ/m²	9.0	7.3	9.0
Notched impact strenght	ISO 179-1 EA/00	kJ/m²	3.0	1.3	3.0
Thermal					
Glass transition temperature (forced oscillation)	ISO 6721/96	℃	165	170	115
Temperature-time limit RTI (flexural test) 2,000h	IEC 216	℃			
Temperature-time limit RTI (flexural test) 20,000h	IEC 216	℃	180		
Coefficient of thermal expansion (20-100℃)	ISO 11359/99	$℃^{-1}\cdot10^{-6}$	20	30	25
Thermal conductivity (25℃)	DIN 52612	W/m.K	1		
Flammability (d=3.2 mm)	UL 94	Class	HB		V-0
Electrical					
Volume resistivity	IEC 60093	Ω. Cm	10^{15}	10^{15}	10^{15}
Surface resistivity	IEC 60093	Ω	10^{14}		10^{15}
Dielectric loss factor tg δ /50 Hz	IEC 60250 (1969)		0.01	0.01	0.03
Dielectric constant ε_R/50 Hz	IEC 60250 (1969)		5.1	5.0	5.7
Electric strenght (3 mm-plate)	IEC 60243-1 (98)	kV/mm	23	21	20
Comparative Tracking Index	IEC 60112/03	CTI-M	250		350
Comparative Tracking Index	IEC 60112/03	CTI	300		600
UL Listing	File E 66640		X		X
Glass fibre reinforced			X	X	X
Processing					
Injection moulding			yes	no	yes

* Mould temperature: 190° C (Injection moulding), 170°C (Compression and Transfer moulding)

DURESCO®
Epoxy Moulding Compounds

Products			**NU 5766**	**NU 5767**	**NU 5768**
	Standard	*Unit*			
General					
Density	DIN 53479	g/cm³	1.95	1.95	1.95
Water absorption (100℃/30min)	ISO 62/99	%	0.08	0.08	0.06
Mould shrinkage *	C-Norm	%			
Post shrinkage * (2h/170℃)	C-Norm	%	0.01	0.01	0.01
Mechanical					
Tensile strenght	ISO 527T2/93	MPa	40	40	70
Flexural strenght	ISO 178/01	MPa	75	80	120
Surface strain (flexural test)	ISO 178/01	%	1.10	1.0	1.10
E-modulus (flexural test)	ISO 178/01	Gpa	12.80	13.30	14.40
Impact strenght	ISO 179-1 FU/00	kJ/m²	6.20	5.90	5.40
Notched impact strenght	ISO 179-1 EA/00	kJ/m²	1.30	1.30	1.90
Thermal					
Glass transition temperature (forced oscillation)	ISO 6721/96	℃	255	255	250
Temperature-time limit RTI (flexural test) 2,000h	IEC 216	℃			
Temperature-time limit RTI (flexural test) 20,000h	IEC 216	℃			
Coefficient of thermal expansion (20-100℃)	ISO 11359/99	$℃^{-1} \cdot 10^{-6}$	22	22	27
Thermal conductivity (25℃)	DIN 52612	W/m.K	0.70	0.70	0.70
Flammability (d=3.2 mm)	UL 94	Class	HB	HB	HB
Electrical					
Volume resistivity	IEC 60093	Ω. Cm	10^{15}	10^{15}	10^{15}
Surface resistivity	IEC 60093	Ω	10^{17}	10^{17}	10^{17}
Dielectric loss factor tg δ /50 Hz	IEC 60250 (1969)		0.018	0.017	0.013
Dielectric constant ε_R/50 Hz	IEC 60250 (1969)		5.40	5.40	5.30
Electric strenght (3 mm-plate)	IEC 60243-1 (98)	kV/mm	20	20	20
Comparative Tracking Index	IEC 60112/03	CTI-M	250	250	225
Comparative Tracking Index	IEC 60112/03	CTI	250	250	275
UL Listing	File E 66640		X	X	X
Glass fibre reinforced					X
Processing					
Injection moulding			yes	yes	yes

*Mould temperature: 190° C (Injection moulding), 170°C (Compression and Transfer moulding)


Shelf Life at 8℃
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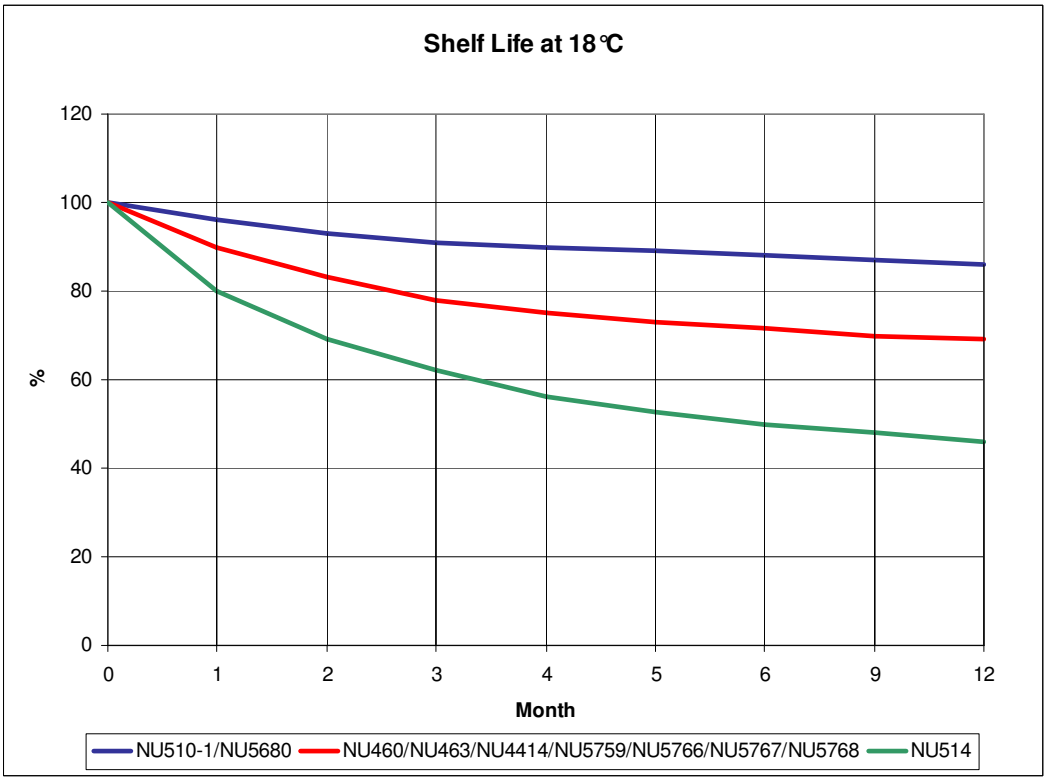
100
80
60
40
20
0
%
0
1
2
3
4
5
6
9
12
Month
NU460/NU510-1/NU5680
NU463/NU514/NU4414/NU5759/NU5766/NU5767/NU5768


Shelf Life at 18℃
120
100
80
60
40
20
0
%
0
1
2
3
4
5
6
9
12
Month
NU510-1/NU5680
NU460/NU463/NU4414/NU5759/NU5766/NU5767/NU5768
NU514

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The information given in this publication is based on the present state of our knowledge but any conclusions and recommendations are made without liability on our part. Buyers and users should make their own assessment of our products under their own conditions and for their own requirements.

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